

THE MURPHY CHEMICAL COMPANY, LIMITED,
WHEATHAMPSTEAD,
HERTS.

ADVISORY BULLETIN No. 3

The Apple Sawfly.

(HOPLOCAMPA TESTUDINEA. KLUG.)

KEEP THESE BULLETINS IN THE GRATIS FILING
COVER WE SUPPLY.

THE HORTICULTURAL COMPANY, LIMITED
HORTICULTURAL BUILDINGS
HENDON

ADVISORY BULLETIN No. 3

The Apple Sawfly.

(HORTICULTURAL TECHNICAL NOTES)

SEND THREE PENCE IN THE DEPOSIT FOR
THREE OF THESE

The Apple Sawfly.

LIFE HISTORY.

The adults of this pest emerge, from cocoons in the soil, during late April or early May. One or more eggs may be laid within each blossom. Their presence can be detected, without opening the flower, by looking for a rusty brown scar on the side of one of the sepals, just below the calyx cup. Each scar represents the point where the ovipositor of the female was inserted to deposit the egg.

The egg hatches from one to three weeks after oviposition. Very shortly after hatching, the larva (grub or maggot) generally leaves the calyx cup and after crawling on the outside of the fruit, quickly bores its way into the developing fruitlet from the side.

After feeding in the centre of the fruit for about a week to ten days, the larva generally comes out at night, and burrows into a clean fruit. It continues its feeding here for some days, frequently coming out at night and returning inside in the early morning. It may, in this manner, attack one or two more fruits before becoming fully fed, towards the end of June. It then drops to the ground, where it spins a tough, parchment-like cocoon in the top nine inches of soil. Here it remains until the following spring, when it pupates within this cocoon and emerges as an adult next April or May.

NATURE OF DAMAGE.

The fruits attacked by the new-hatched larvæ generally fail to develop and either drop to the ground or sometimes remain on the trees from one year to another as shrivelled, mummified, very small fruitlets. The fruits attacked later, by migrating larvæ, also drop to the ground ; the centre of the apple is filled with brown or black frass which also protudes from a hole in the side. One common feature of a Sawfly attack is the presence of ribbon-like scars which may be found on the fruit when picked. These are due to the larvæ failing in their attempt to bite their way in through the skin and should not be confused with the wider, irregular scars caused by Apple Capsids.

The early-flowering varieties are not often attacked to any great extent. Worcester, Newton, Derby, Grieve, Annie Elizabeth, Lane and other mid-season and late-flowering varieties generally suffer the most.

CONTROL.

It has been found recently that the best control is obtained by the use of a Nicotine Wash against the unhatched eggs.

When applying the spray it is advisable to hold the lance up and direct the wash down into the blooms with a high pressure so that it can penetrate right into the calyx.

It is essential to use a coarser nozzle than is generally employed for Scab sprays, otherwise the wash will not penetrate into the blooms. A thorough wetting of the centre of the flowers and young fruitlets must be given.

Particular care is advised to see that the whole tree is thoroughly sprayed, especially the upper branches, where Sawfly infestation is generally the most severe. Whenever possible, choose a warm still day on which to apply the spray.

We recommend the adoption of one of the methods of control outlined below.

Method I.

On varieties of apples which do not normally receive any post-blossom treatment for Scab, or if it is desired to keep separate the lime sulphur and nicotine applications, use the following formula :—

Nicotine (95/98%)	8-10oz.		Nicotine	4 oz.
Soft Soap	8-10 lbs.	or	Soft Soap	4 lbs.
Water	100 gallons.		Water	40 gallons.

Apply at petal fall (*i.e.* when 80% of the blossoms have fallen) or within a week of that date. For very severe infestation of Sawfly make a second application about a week after the first or 7-10 days after petal fall.

Method II.

For most varieties of apples use the following formula :—

Nicotine	...	...	(95/98%) 8-10 ozs.
Lead Arsenate	2 lbs.	powder or 4 lbs.	paste.
Wetter and Penetrant*			
Lime Sulphur	...	...	(see below).
Water	...	...	Up to 100 gallons.

* The amount of Wetter depends on the material used.

In order to avoid the risk of sulphur scorch, it is advisable to reduce the concentration of the Lime Sulphur from 1 in 60 to 1 in 80 for most varieties and from 1 in 100 to 1 in 120 for varieties such as Cox, Lane, Bath, Rival and Grieve.

Apply at petal fall (*i.e.* when 80% of the blossoms have fallen) or within a week of that date. Make a second application (unless the infestation is only light) about a week after the first, or 7-10 days after petal fall.

Bordeaux Mixture can be substituted for Lime Sulphur in the above formula, but the amount of copper sulphate should be reduced from 8 to 6 lbs. to give a 6-8-100 Bordeaux Mixture.

Method III.

The two previous methods aim at killing the eggs and so keeping the fruit entirely undamaged. If it has not been possible to apply either of these methods, the use of a Derris Dust, directed against the migrating larvæ, gives a good measure of control. It should be borne in mind, however, that about 25% of the crop will already have been affected, if no attempt is made to control the pest until the larvæ migrate.

The fruit should be examined about fourteen days after petal fall and if injured fruits, with a hole in the side or a tunnel under the skin, are seen in any numbers, a Derris Dust should be applied immediately. A second dusting a week later is advisable.

The best time for dusting is the early morning, from 4 a.m. to about 7 a.m., or in the evening, when there is little or no wind.

A fine Derris Dust, with a guaranteed Rotenone content of not less than 0·2%, should be used and the fruits thoroughly covered with the dust. About half to three-quarter cwt. of the dust per acre will generally be sufficient.

If you require further information on this, or any other pest, do not hesitate to write us. If possible, forward specimens, securely packed, of damaged material, or insects thought to be responsible for the damage.



We supply :—

British Nicotine (95/98%).

Alvesco Lime Sulphur.

Spreadite (Wetter and Penetrant).

Lead Arsenate, Powder and Paste.

Insecticide Soft Soap.

Bordeaux Paste.

Rotomort Derris Dust

